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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,065

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Magnus Wiethoff

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SMITH LAW OFFICE

8000 EXCELSIOR DRIVE, SUITE 301

MADISON, WI 53717

EXAMINER

SHABMAN, MARK A

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,065	<b>Applicant(s)</b> WIETHOFF ET AL.	
	<b>Examiner</b> MARK SHABMAN	<b>Art Unit</b> 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 25-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 and 33-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites the limitations of "distinguishing the object type as either a particle object or a non-particle object" and "distinguishing the object type as either a mineral particle object or a biological particle object". It is unclear as to how the object could be a "non-particle object" and then further distinguished as a mineral particle or a biological particle as it has been previously disclosed as a non-particle. Thus the second distinguishing step would only be applicable in the case where the first distinguishing step resulted in the determination the object is a particle object.

Claim 37 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how the defect is distinguished from an object when the defect is one of the object types determined. In the parent claim 1, the object recognition rule is applied to determine whether the object is particle or non-particle. Since defects fall under non-particle type, they would have to be considered by the object recognition rule

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in claim 1, in order to determine their type and therefore could not be excluded as claimed.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1,2, 5-24 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oosterling US Patent 6,578,516 B1 (hereinafter referred to as Oosterling)..

Regarding **claims 1 and 5**, Oosterling discloses a method and apparatus for determining milk quality during the milking process wherein a sample is filtered through filter 7 and examined via camera 6 to detect at least one object such as blood or flakes based on an object recognition rule of analyzing the filter for any potential hazardous objects (column 2). Oosterling describes situations in which the chamber overflows with bubbles in column 3 and the actions taken to control such an occurrence. When seen through the camera, it would have been able to tell the difference between a potential blood particle object and a bubble "non-particle object" as claimed. Thus, a distinction could easily be made. One of ordinary skill in the art would further be able to tell the difference between a biological particle such as blood and a mineral particle such as metal shavings or sand granules from the machine simply by viewing the filter and any particulate caught in it.

Regarding **claim 2**, the filter of Oosterling is used to extract at least one object from the milk as claimed.

Regarding **claim 6**, the apparatus of Oosterling identifies a portion of interest or area when there is contamination in the system such as blood on the filter.

Regarding **claim 7**, one of ordinary skill in the art at the time of invention would be able to take the image of the filter as described in Oosterling and locate a boundary by viewing the image and determining based on the boundaries of any contamination, what the contamination is and its extent. As discussed in column 3, the milk is to be classified based on its quality and thus any visible problems seen would be beneficial for such classification.

Regarding **claim 8**, column 2 of Oosterling describes specifying one parameter for detection such as color in contrast to the color of the filter and detecting that parameter.

Regarding **claim 9**, the parameter is captured optically via camera means 6.

Regarding **claim 10**, the parameter identified by Oosterling is derived by the lightness in contrast to the dark filter as described in column 2.

Regarding **claim 11**, one of ordinary skill in the art at the time of invention would be able to take the image of the filter as described in Oosterling derive from the entrapped particles a parameter based on the "outer contour of an object" as claimed. For example, viewing the filter could produce an image of a hair which would be identified by its shape and outer contour.

Regarding **claim 12**, the contrast of the contamination caught on the filter in relation to the color of the filter is used to determine if a problem exists as described in column 2. Further, the use of a UV or IR light to increase the contrast between the two is described in column 3.

Regarding **claim 13**, the color of the contamination (i.e. blood) is used to determine contamination in the apparatus of Oosterling.

Regarding **claim 14**, Oosterling describes using both color and contrast to determine whether contamination is present or not in the milk under test. It would have been obvious to one of ordinary skill in the art at the time of invention to have used both at the same time to determine whether an object such as blood was present or not.

Regarding **claim 15**, as with the rejection of claim 14, two parameters are determined in the method of Oosterling. It would have been obvious to one of ordinary skill in the art at the time of invention to have used these parameters to determine what object was caught in the filter, including using fuzzy logic. For example: if the color of the object is A and the contrast is B, then the object is C.

Regarding **claim 16**, the apparatus and method of Oosterling teaches analyzing the filter element with camera 6 to determine the quality of the milk. Elements such as Hue and intensity which depend on color would be present in such analysis and one of ordinary skill in the art would be able to apply a "gradient formation" to the results as this is seen as a simple data manipulation.

Regarding **claim 17**, Oosterling describes using a limit value to determine contamination of a sample, which reads on the characteristic value as claimed.

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Regarding **claim 18**, the light 5 of Oosterling is used to help identify the parameters which are to be detected as claimed.

Regarding **claim 19**, column 3 of Oosterling describes using the analysis method for removal or separation of milk samples. If the quality is determined to be below an acceptable limit, it would have been obvious to one of ordinary skill in the art at the time of invention to have discarded the sample or removed it from the marketable milk as it could cause potential health problems.

Regarding **claim 20**, Oosterling describes a method in which a predetermined amount of milk is routed into a measuring chamber 15 which has an acquisition unit 6, part of the liquid phase of the milk is drained out through drain 16 as it passes through and at least a portion of the measuring chamber is captured by acquisition unit 6 for analysis.

Regarding **claim 21**, Oosterling discloses a buffer chamber 15 which is used to hold a predetermined amount of milk and comprises a filter 9 on which a film is formed when contamination is present.

Regarding **claim 22**, the objects are removed from the sample in Oosterling by filter 9 which prevents their passage.

Regarding **claim 23**, as the objects such as blood are collected in the filter of Oosterling, the frequency of the individual objects is determined since the system is operating over time.

Regarding **claim 24**, column 1 of Oosterling describes determining the quality of the milk being processed and stored in different containers. It would have been obvious

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to one of ordinary skill in the art at the time of invention to have classified the different storage tanks based on the amount of contamination or the frequency of the object types found in each sample.

Regarding **claim 34**, when examining the milk and particles in the filter, it would have been obvious to one of ordinary skill in the art at the time of Invention to have observed any defect objects which do not display the characteristics of particles and rule them out as potential contaminants to keep production operating.

Regarding **claim 35**, by illuminating the filter for viewing of potential particles, the transmissive light would be used as well as the reflected to determine whether particles are present.

Regarding **claim 36**, it would have been obvious to one of ordinary skill in the art at the time of invention to have based the milk grade on objects detected as the FDA requires strict guidelines for grading that would not be met due to high particle counts.

Regarding **claim 37**, as the method of Oosterling is used for determining whether a particle is in the filter, by detecting such a particle, it would in effect distinguish it from a defect as claimed.

Claims 33- are rejected under 35 U.S.C. 103(a) as being unpatentable over Oosterling in view of Maier US Patent 6,571,731 (hereinafter referred to as Maier).

Regarding **claim 33**, the Oosterling reference does not explicitly disclose measuring reflection objects. The Maier reference discloses a method of filtering milk in which a reflectivity of the filter changes as milk is filtered. In this method, light reflected as non-particle objects is detected and acknowledged. It would have been obvious to



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one of ordinary skill in the art at the time of invention to have measured this reflection in order to ensure it is not incorrectly counted as an unwanted particle.

### ***Response to Arguments***

Applicant's arguments filed 22 June 2009 have been fully considered but they are not persuasive.

Page 17 of the arguments states that the Oosterling reference fails to teach an object recognition rule for distinguishing particles from non-particles other than by visual inspection. It is noted that during a visual inspection, any number of "object recognition rules" would be used to determine a presence of particles. A user merely viewing an image of the filter would be able to use a rule such as determining if there is an object present and if so, what color, shape, size etc. the object is to determine whether or not a potential problem must be addressed. Independent claim 1 does not distinguish itself from the Oosterling reference in any way by disclosing any steps which could not be performed by the prior art. It is further argued that the prior art does not teach a method of automatically determining the contamination or particulate in the sample, yet this too is not positively recited in the present claims and therefore is considered moot.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK SHABMAN whose telephone number is (571)270-3263. The examiner can normally be reached on M-F 8:00am - 4:30pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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